

Warm Up

Mar. 24, 2017

Expand and Simplify

a)  $3n^4 (5m^3n - 10m^2n^2)$

$$15n^5m^3 - 30n^6m^2$$

b)  $2x(3x - 1) - 4(7x - 2)$

$$6x^2 - 2x - 28x + 8$$

$$6x^2 - 30x + 8$$

Multiply the Binomial

$$(x + 4)(x - 3)$$

$$x^2 - 3x + 4x - 12$$

$$x^2 + 1x - 12$$

see next page  
for box method

$$(x + 4)(x - 3)$$

	x	+4
x	•	•
-3	•	•

	x	+4
x	x · x x <sup>2</sup>	x(+4) +4x
-3	(-3)(x) -3x	(-3)(+4) -12

$$x^2 + 4x - 3x - 12$$

$$x^2 + 1x - 12$$

$$24 \times 25$$

	20	4
20	20x20 400	4x20 80
5	5x20 100	4x5 20

$$\begin{array}{r} 400 \\ 100 \\ 80 \\ 20 \\ \hline 600 \end{array}$$

$$(2x + 7)(-3x + 5)$$

$$-6x^2 + 10x - 21x + 35$$

$$-6x^2 - 11x + 35$$

$$(2x + 7)(-3x + 5)$$

	-3x	+5
2x	$-6x^2$	$10x$
+7	$-21x$	+35

**Ultimate Question**

$$(2x - 2)(3x^2 - 4x + 1)$$

$$6x^3 - 8x^2 + 2x - 6x^2 + 8x - 2$$

$$6x^3 - 14x^2 + 10x - 2$$

5)

$$(10x^5 + 3)(-2x^2 - 11x + 2)$$

$$-20x^7 - 110x^6 + 20x^5 - 6x^2 - 33x + 6$$

	-2x <sup>2</sup>	-11x	+2
10x <sup>5</sup>	•	•	•
+3	•	•	•

Expand and simplify

$$(x - 3)^2$$

← exponent means repeat the bracketed twice

$$(x-3)(x-3)$$

$$x^2 - 3x - 3x + 9$$

$$x^2 - 6x + 9$$

Expand and simplify

$$(x + 2)^3$$

← repeat bracketed 3 times

$$(x+2)(x+2)(x+2)$$

Do this first using rainbow method

$$x^2 + 2x + 2x + 4 \quad (x+2)$$

$$(x^2 + 4x + 4)(x+2)$$

$$x^3 + 2x^2 + 4x^2 + 8x + 4x + 8$$

$$x^3 + 6x^2 + 12x + 8$$

Expand and simplify

$$(x - 3)(x - 1)(x - 5)$$

Expand and simplify

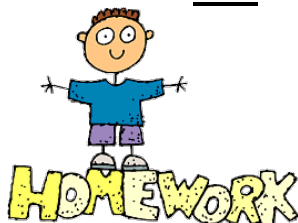
$$(x - 1)^2 + (x + 4)^2$$

Expand and simplify

$$(x - 3)^2$$

Quiz tuesday March. 28

$2y(3x)$   
 $6xy$



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Question 8ab, 9ab, 15a~~x~~,  
18~~a~~b, 21a~~b~~

15 a)

$$\begin{aligned}
 & (3s+5)(2s+2) + (3s+7)(s+6) \\
 & 6s^2 + 6s + 10s + 10 + 3s^2 + 18s + 7s + 42 \\
 & \underline{6s^2} + \underline{16s} + 10 + \underline{3s^2} + \underline{25s} + 42 \\
 & 9s^2 + 41s + 52
 \end{aligned}$$

$$(x+y)(x+y+3)$$

$$x^2 + \underline{xy} + 3x + \underline{xy} + y^2 + 3y$$

$$x^2 + 2xy + 3x + y^2 + 3y$$